



Post-doctoral position: Spintronics / Magnetic sensors



Description of the offer :

Postdoc position in spintronics and magnetic sensing at the Service de Physique de l'Etat Condensé (SPEC), CEA Saclay, Gif-sur-Yvette, France.

Starting date: March-June 2019.

Duration: 18/24 months.

Research area: Material science, spintronics/nanomagnetism.

The overall strategy of Nanomagnetism and Oxides team at SPEC is in depth understanding of magnetism in condensed matter with a good balance between state-of-the-art research, development of new instruments, and applications. This equilibrium is possible in this field where applications and research are very close.

The postdoc will work in the frame of the ANR (Agence Nationale pour la Recherche) project AdvTMR.

The aim of AdvTMR is to launch a new generation of magnetic sensors based on spin electronics based on the combination of high-performance magnetic tunnel junctions and a low-frequency noise suppression method inherent in these sensors. The expected detection performance is one order or two orders of magnitude better than existing magnetic sensors. The results of the project will be two sensors: a small 2D magnetometer, very low power consumption operating up to 150°C and having a detection of the order of picoTesla and a sensor cooled to 77K with a lower detection than femtoTesla. The work is divided between SPEC-CEA and an industrial company over a period of 3 years. The validation will be carried out with the help of three manufacturers..

The postdoc will be in charge of design and characterization of spintronics devices based on Tunnel Magneto Resistance (TMR) aiming at lowering the low frequency noise and increasing sensitivity, to realize 2D magnetometer and sub-picotesla sensitive sensor for applications in the area of life science, magnetometry....

Requirements

A successful applicant is expected to have a **PhD degree in Physics (Condensed Matter)**. He/she must have a solid theoretical and experimental background in nanomagnetism /spintronics, skills such as magnetotransport characterization, microfabrication, device testing and electronics being particularly relevant.

Contact and Application

The application should include a statement of research interest, CV, a copy of the PhD thesis, or equivalent, published articles and other relevant materials, if available. Also, letter(s) of recommendation can be included.

For further information about the position please contact:

Myriam Pannetier-Lecoeur, tel: +33-(0)169087410, email: myriam.lecoeur@cea.fr

Aurélie Solignac, tel: +33-(0)169089540, email: aurelie.solignac@cea.fr

Claude Fermon, tel: +33-(0)1690879401, email: claudio.fermon@cea.fr.

Please submit your application **by 31 March 2019**, by email to one of the above email addresses.